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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/754,793	01/04/2001	James Allen Wambaugh	TH-1714 (US)	3251	
7	590 05/03/2005		EXAM	INER	
Beverlee G. Steinberg			TRAN, LEN		
c/o Shell Oil C			ART UNIT	PAPER NUMBER	
Intellectual Property P.O. Box 2463			1725		
Houston, TX 77252-2463			DATE MAILED: 05/03/2005		

Please find below and/or attached an Office communication concerning this application or proceeding.

			L'S
	Application No.	Applicant(s)	
	09/754,793	WAMBAUGH, JAM	IES ALLEN
Office Action Summary	Examiner	Art Unit	
	Len Tran	1725	
The MAILING DATE of this communication a Period for Reply	ppears on the cover sheet w	ith the correspondence add	dress
A SHORTENED STATUTORY PERIOD FOR REP THE MAILING DATE OF THIS COMMUNICATION - Extensions of time may be available under the provisions of 37 CFR after SIX (6) MONTHS from the mailing date of this communication If the period for reply specified above is less than thirty (30) days, a re - If NO period for reply is specified above, the maximum statutory perio - Failure to reply within the set or extended period for reply will, by statuenty reply received by the Office later than three months after the mail earned patent term adjustment. See 37 CFR 1.704(b).	I.  1.136(a). In no event, however, may a leply within the statutory minimum of third will apply and will expire SIX (6) MONute, cause the application to become Alexandre.	reply be timely filed ty (30) days will be considered timely NTHS from the mailing date of this co BANDONED (35 U.S.C. § 133).	, mmunication.
Status			
1) Responsive to communication(s) filed on 18	January 2005.		
2a)⊠ This action is <b>FINAL</b> . 2b)☐ Th	nis action is non-final.		
3) Since this application is in condition for allow	ance except for formal mat	ters, prosecution as to the	merits is
closed in accordance with the practice under	Ex parte Quayle, 1935 C.D	). 11, 453 O.G. 213.	
Disposition of Claims		·	
4)⊠ Claim(s) <u>1 and 5-23</u> is/are pending in the app	plication.		
4a) Of the above claim(s) is/are withdr	awn from consideration.		
5) Claim(s) is/are allowed.			
6)⊠ Claim(s) <u>1,5-23</u> is/are rejected.			
7) Claim(s) is/are objected to.	•		
8) Claim(s) are subject to restriction and	or election requirement.		
Application Papers			
9)☐ The specification is objected to by the Examir	ner.		
10) The drawing(s) filed on is/are: a) □ ac	ccepted or b) objected to	by the Examiner.	
Applicant may not request that any objection to th	ie drawing(s) be held in abeyar	nce. See 37 CFR 1.85(a).	
Replacement drawing sheet(s) including the corre	ection is required if the drawing	(s) is objected to. See 37 CF	R 1.121(d).
11) The oath or declaration is objected to by the I	Examiner. Note the attached	d Office Action or form PT	O-152.
Priority under 35 U.S.C. § 119	9		
12) Acknowledgment is made of a claim for foreigal a) All b) Some * c) None of:	gn priority under 35 U.S.C. {	§ 119(a)-(d) or (f).	
1. Certified copies of the priority docume	nts have been received.		
2. Certified copies of the priority docume	nts have been received in A	pplication No	
<ol><li>Copies of the certified copies of the pri</li></ol>	iority documents have been	received in this National S	Stage
application from the International Bure	, , , , , , , , , , , , , , , , , , , ,		
* See the attached detailed Office action for a lis	st of the certified copies not	received.	
	7		-
Attachment(s)		•	
1) Notice of References Cited (PTO-892)		Summary (PTO-413)	
<ol> <li>Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>Information Disclosure Statement(s) (PTO-1449 or PTO/SB/0</li> </ol>		s)/Mail Date  nformal Patent Application (PTO	450)
			F 1:3Z )

# **DETAILED ACTION**

## Claim Rejections - 35 USC § 103

- 1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 2. Claims 1 and 5-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Addiego et al (US 6,623,707), and further in view of Lachman et al (US 4,912,077).

Addiego et al disclose a method for equalizing heat distribution across a catalyst in a tube reactor for dehydrogenation of ethylbenzene. The tube having a center and channels molded therein for directing a feed therethrough so as to direct the flow of heat toward the center, inwardly or outwardly, of the catalytic monolith. In addition, iron oxide is useful in the catalytic dehydrogenation of ethylbenzene to styrene (col. 1, lines 1-15 and figures).

Addiego et al fail to teach a ceramic monolith support impregnated with a catalytically reactive metal such as silver, nickel, cobalt, and molybdenum.

However, Lachman et al disclose the method of preparing a unitary composite structure exhibiting catalytic activity consisting essentially of silver, cobalt, nickel and molybdenum for the purpose of using in oxidizing, or in the alternative, reducing environments, and in thermally and mechanically stressful environments (col. 2, lines 1-58 and col. 1, lines 15-20).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide a catalyst with precious metal as taught by Lachman, in Addiego et al in order to be used in thermally and mechanically stressful environment.

### Response to Arguments

3. Applicant's arguments with respect to claims 1 and 5-23 have been considered but are most in view of the new ground(s) of rejection.

Applicant argues that the claimed inventions are significantly different from the aforementioned features noted as being taught by the Addiego et al patent. One difference is in the design of the claimed tube reactor that uses a monolithic support having uni- or multi-directional channels to direct the flow of heat within the monolith of the tube reactor in order to equalize the temperature profile across the cross-section of the tube reactor. Another difference is that there is no heat being introduced into or removed from the center of the claimed tube reactor by a heat transfer means such as a steam coil. While the above distinction is agreed by the examiner, it is not in commensurate with the scope of the claims, since such argued features are not claimed. The amendment filed on 1/18/05 does not define over the prior arts of record.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (571) 272-1184. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Len Tran
Examiner
Art Unit 1725

LT April 28, 2005

> JONATHAN/JOHNSON PRIMARY EXAMINER